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Notice of Allowability	Application No.	Applicant(s)	
	10/034,296	STEPANIAN ET AL.	
	Examiner	Art Unit	
	Jennifer A. Boyd	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/5/06.
 2. ☒ The allowed claim(s) is/are 1-51.
 3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
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| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date <u>3/7/06</u>. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input checked="" type="checkbox"/> Other <u>Translation of JP 08-034678</u>
<u>(sonoda et. al)</u> |
|--|--|

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed January 5, 2006, have been entered and have been carefully considered. Claim 12 is amended, claims 49 – 51 are added and claims 1 – 51 are pending. In light of Applicant's arguments, all rejections have been withdrawn.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kawai Lau, Ph.D. on March 7, 2006.

The application has been amended as follows:

1. (Currently amended) ~~(Previously Presented)~~ A composite article to serve as a flexible, durable, light-weight insulation product, said article comprising a lofty fibrous batting sheet and ~~containing~~ a continuous aerogel through ~~in~~ said batting.

Art Unit: 1771

12. (Currently amended) A composite article comprising a fibrous batting sheet and ~~containing~~ a continuous aerogel through ~~in~~ said batting, where the ~~which~~ batting is sufficiently lofty that the cross-sectional area of the fibers of the batting visible in the cross-section of the composite is less than 10% of the total surface area of that cross section.

19.) (Currently amended) (~~Previously Presented~~) An aerogel composite article comprising (i) a fibrous batting sheet and ~~containing~~ a continuous aerogel through ~~in~~ said batting, where the ~~which~~ batting causes no substantial degradation of the thermal performance of the composite as compared with an aerogel of the same material and (ii) microfibers having diameters from about 0.1 to 100 μm and aspect ratios greater than 5.

38.) (Currently amended) (~~Previously Presented~~) An aerogel composite article comprising (i) a fibrous batting sheet and ~~containing~~ a continuous aerogel through ~~in~~ said batting, where the ~~which~~ batting causes no substantial degradation of the thermal performance of the composite as compared with an aerogel of the same material and (ii) one or more high thermal conductivity materials having a thermal conductivity of equal to or greater than 1 W/mK.

Reasons for Allowance

3. Claims 1 – 51 are allowed.

4. The following is an examiner's statement of reasons for allowance: All rejections have been overcome. Ramamurthi et al. (US 5,306,555) teaches the use of individual fibers, bundles of fibers, mats or sheets, woven or unwoven, as needed in the particular application (column 4,

Art Unit: 1771

lines 30 – 40) as reinforcement for a continuous aerogel. Frank et al. (US 2003/0077438) teaches the use of individual fibers, wadding, or a non-woven or woven fiber material (page 2, [0020]). Newly cited Sonoda et al. (JP 08-034678) teaches the use of nonwoven cloth laminated with aerogel panels (embodiment a), a glass wool-like block-form fiber aggregate saturated with an aerogel (embodiment b) and an aerogel panel containing dispersed fibers (embodiment c) (see Translation of JP 08-034678, page 7, [0028 – 0030] and Figures). Although previously cited Ramamurthi et al. (US 5,306,555) and Frank et al. (US 2003/0077438) and newly cited Sonoda et al. (JP 08-034678) are considered to be the most pertinent prior art, they fail to teach or suggest using *a lofty fibrous batting sheet* through a continuous aerogel. As discussed in Applicant's Specification, a "lofty fibrous batting" is defined as a fibrous material that shows the properties of bulk and some resilience (with or without full bulk recovery) (page 11) and clearly distinguishes the difference between a fibrous mat and batting (page 12). In light of the full-translation of the newly discovered reference Sonoda et al. (JP 08-034678), the Examiner and Applicant conducted a telephone interview on March 7, 2006 and discussed possible claim amendments to distinguish the claimed invention from embodiment b of the reference. The Applicant has suggested to incorporate the term "sheet" into the independent claims to require that the lofty batting is in continuous (or sheet) form rather than a collection of fiber aggregates which is considered to be non-sheet form. The terms "sheet" and "non-sheet" form are discussed in Applicant's Specification. The Examiner has incorporated the term "sheet" into the independent claims by way of Examiner's amendment.


Art Unit: 1771


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer Boyd
March 8, 2006


ULA RUDDOCK
PRIMARY EXAMINER